

REMARKS

Summary of Amendments and Status of Claims

Claims 1-10 and 12-21 have been amended. In particular, independent claims 1 and 12 have been further limited to distinguish the present invention, and claims 2-10, depending directly or indirectly from claim 1, and claims 13-21, depending directly or indirectly from claim 12, have been amended editorially to accord with the amendments to their respective parent claims.

Claims 11 and 22-27 have been indicated as being "withdrawn," as that is their presumed present status. No claims have been added or canceled.

- **Claims 1-10 and 12-21 are thus currently pending.**

Support for Claim Amendments

It is believed that the at least the figures provide support for the recitations editorially added to the pending dependent claims, in particular, for the recitations added to claims 2 and 3, and correspondingly to claims 13 and 14.

Support for the recitation, added to claim 12, "substrates of semiconductor-device-scale dimension" is found, for example, in paragraph [0007], which states that an object of the invention "is to provide a Group III nitride semiconductor crystal whose dimensions are right for a semiconductor device," and in paragraphs [0028], [0033], [0034], which similarly mention that the invention can realize Group III nitride semiconductor crystals of such size—"right for," and "about that of" semiconductor devices.

Claim Rejections – 35 U.S.C. § 102

Claims 1-4, 6 and 7 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. App. Pub. No. 2002/0102819 by Tamura et al.

As the Office notes, *Tamura et al.* discloses, in paragraph [0059] of the reference, that "a GaN film 3 having a thickness of approximately 300 μm is grown through epitaxial growth on the top surface of the sapphire substrate 1 at an exposed portion."

Nevertheless, *Tamura et al.* does not disclose, nor teach or even suggest "growing at least two Group III nitride semiconductor crystals on a starting substrate," as now recited in claim 1.

Tamura et al. does not anticipate claim 1 because *Tamura et al.* is not concerned, as in contrast is the present invention, with growing a plurality of III-nitride semiconductor crystals on a single starting substrate. In fact, as is clear from paragraphs [0145] through [0151] and Fig. 14 of *Tamura et al.*, the only example of semiconductor device fabrication described therein is conventional: Continuous device-forming layers are grown onto the unitary GaN film 3, and the layer-bearing substrate is then sliced to segment it into chips.

In contrast, III-nitride semiconductor crystal manufactured according to the method of claim 1 of the present application enables III-nitride semiconductor devices to be manufactured without, in the first place, having to slice the device-bearing crystal. (Cf. the last sentence of paragraph [0033], for example, of the present specification.)

It is respectfully submitted that for the foregoing reasons claim 1 should be held allowable, and thus the remaining claims rejected under this section of the Office action, claims 2-4, 6 and 7, should be held allowable as depending from an allowable base claim.

Claim Rejections – 35 U.S.C. § 103

Claims 5, 8, 9 and 12-21: *Tamura et al.* '819 in view of *Usui et al.* '920

Claims 5, 8, 9 and 12-21 were rejected as being unpatentable over *Tamura et al.* in view of U.S. Pat. No. 7,097,920 to *Usui et al.*

Claims 5, 8 and 9 depend from claim 1, which, as argued above, is believed to be patentable over *Tamura et al.* The limitations added to claim 1 by the present amendment are not any of those of claims 5, 8 and 9. *Usui et al.*, however, has been cited to allege disclosure of limitations recited in claims 5, 8 and 9 but not met by the *Tamura et al.* disclosure.

Yet since claim 1, independent of the claim 5, 8 and 9 limitations, now distinguishes over *Tamura et al.*, it follows that claims 5, 8 and 9 as dependent on claim 1 distinguish even over the *Tamura et al.* and *Usui et al.* combination.

Applicants note that both *Tamura et al.* and *Usui et al.* teach, exclusively, methods of manufacturing a single-layer GaN substrate from a single-sheet starting substrate. In contrast, as now recited in claim 12 as well in claim 1, the present application sets forth a method of manufacturing a plurality of III-nitride substrates onto a single starting substrate. Claim 12 is further directed to producing the plurality of III-nitride substrates bearing III-nitride semiconductor-device-forming layers.

Namely, claim 12 recites:

growing at least two Group III nitride semiconductor crystal substrates of semiconductor-device-scale dimension on a starting substrate; . . . growing at least one Group III nitride semiconductor crystal layer on each said Group III nitride semiconductor crystal substrate; and . . . separating from said starting substrate Group III nitride semiconductor crystals . . . constituted by said Group III nitride semiconductor crystal substrates and said Group III nitride semiconductor crystal layers.

Manufacturing semiconductor devices by the methods of *Tamura et al.* and *Usui et al.* means a procedure, as discussed in the background section of the present specification, in paragraph [0003], in which a step is gone through of slicing into chips crystal onto which has been formed device-forming layers.

In contrast, the present application sets forth a method of manufacturing chip-size crystal onto a starting substrate—as claim 12, quoted from above, clearly recites. Accordingly, as noted above in discussing the § 102 rejections over *Tamura et al.*, a step of slicing device-bearing crystal into chips is rendered unnecessary, inasmuch as the present invention achieves, as set forth in paragraph [0007] also, a plurality of III-nitride semiconductor substrates of semiconductor-device-scale dimension on a single starting substrate.

It is respectfully submitted that inasmuch as claim 12 for the foregoing reasons distinguishes over *Tamura et al.* in view of *Usui et al.*, claims 13-21, as proper dependent claims carrying with them all of the limitations of their parent claim 12, likewise distinguish over that cited combination of references.

Claims 10 and 21: Tamura et al. '819 in view of Usui et al. '920 and further in view of Tsuda et al. '957

Claims 10 and 21 were rejected as being unpatentable over *Tamura et al.* in view of *Usui et al.* and further in view of U.S. Pat. App. Pub. No. 2003/0136957 to Tsuda et al.

Claim 10 depends from claim 1, which, as argued above, is believed to be patentable over *Tamura et al.* Claim 21, meanwhile, depends from claim 12, which, as argued above, is believed to be patentable over *Tamura et al.* in view of *Usui et al.* The limitations added to claims 1 and 12 by the present amendment are not those of claims 10 and 21. *Tsuda et al.* has been cited to allege disclosure of limitations recited in claims 10 and 21, but not met by *Tamura et al.* in view of *Usui et al.*

Yet since claim 1, independent of the claim 10 limitations, now distinguishes over *Tamura et al.*, and claim 12, independent of the claim 21 limitations, now distinguishes over *Tamura et al.* in view of *Usui et al.*, it follows that claims 10 and 12 as dependent on claims 1 and 12, respectively, distinguish even over the *Tamura et al.*, *Usui et al.* and *Tsuda et al.* combination.

Conclusion

Accordingly, Applicant courteously urges that this application is in condition for allowance. Reconsideration and withdrawal of the rejections is requested. Favorable action by the Examiner at an early date is solicited.

Respectfully submitted,

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